



Summary of Cancer Incidence and Mortality for Zip Code 29645 (Gray Court, SC)

South Carolina Central Cancer Registry South Carolina Department of Health and Environmental Control

In order to determine if there are any unusual cancer patterns in an area the first step is to look at the number of new cancer cases (incidence) or deaths (mortality) occurring in the ZIP code and compare this to the number of cancer cases and deaths expected to occur by chance alone, given the corresponding South Carolina state rates (see Tables 1 & 2). The number of expected cases and deaths are determined by using South Carolina state cancer incidence and mortality rates and applying them to the population of the geographic area (29645). These observed and expected values allow for the calculation of a chi-square test statistic to look for statistically significant differences in incidence. Note that although some differences in incidence or mortality may be statistically significant, *they may still not meet all of the criteria to qualify as a significant cancer cluster*. When significant results are encountered, additional steps are taken to look at the data more closely (e.g., counts, type of cancers, age, etc.).

Cancer Incidence in ZIP Code 29645

Table 1 shows what types of cancer occurred in ZIP code 29645 from 2000-2004, and how many cancer cases were expected. Overall, there were fewer cases of cancer observed than expected. A total of 199 new cases of cancer occurred in the ZIP code, while 217 cases were expected. The most common types of cancer were female breast, lung/bronchus, prostate, and colon/rectum cancers. These four types of cancer are also the most common cancers occurring across all of South Carolina. The analysis did not reveal a specific cancer type where the number of cases was significantly higher than expected.

Cancer Deaths in ZIP Code 29645

To assess cancer deaths in this ZIP code, cancer mortality data from 2000-2004 were used. The same process used to analyze new cancer cases was also used to analyze cancer deaths. Table 2 shows the number of cancer deaths that occurred and the number expected in the ZIP code. A total of 68 cancer deaths occurred in this ZIP code, while 86 deaths were expected. Therefore, fewer cancer deaths occurred than expected. The analysis did not reveal a specific cancer type where the number of cancer deaths was significantly higher than expected.

Conclusions

To summarize, fewer cancer cases and deaths occurred in ZIP code 29645 than expected. The analysis did not reveal any specific cancer type where the number of cases or deaths was significantly higher than what we would expect.

In order for a true cancer cluster to exist, the number of cancers occurring must be more than would be expected by chance. Along with statistical testing, there are several other criteria that determine whether a true cancer cluster exists. First, a cancer cluster would more likely involve rarer types of cancer rather than more common cancers like lung or prostate cancers. Also, a cancer cluster would occur with one specific type of cancer rather than having excesses in several different types of cancer. (See Cancer Assessment Investigation Guidelines for further information).

Taking all these criteria into consideration, the South Carolina Central Cancer Registry determined there is no evidence of cancer clustering in ZIP code 29645.

For questions about this report, please contact Susan Bolick-Aldrich at the SC Central Cancer Registry.

Report provided by:

SC Central Cancer Registry
Department of Health and Environmental Control
810 Dutch Square Blvd., Ste. 220
Columbia, SC 29210
Phone: (800) 817-4774 or (803) 731-1419

References:

1. American Cancer Society website, www.cancer.org
2. National Cancer Institute, www.cancer.gov

Information on cancer incidence provided by the SC Central Cancer Registry, Office of Public Health Statistics and Information Services, SC Dept. of Health and Environmental Control.

Information on cancer mortality provided by the Division of Vital Registry and the Division of Biostatistics & Health Informatics, SC Dept. of Health and Environmental Control.

06/20/07cmm

Table 1. Analysis of Cancer Cases in ZIP Code 29645, 2000-2004

Cancer Type	Observed No. of Cases	Expected No. of Cases	Observed/ Expected	Chi-Square Test*	Significance
Female Breast	34	30.7	1.11	0.35	NO
Lung and Bronchus	32	33.2	0.96	0.05	NO
Prostate	29	35.3	0.82	1.11	NO
Colon and Rectum	29	23.8	1.22	1.15	NO
Non-Hodgkin Lymphoma	8	7.8	1.02	0.00	NO
Urinary Bladder	8	7.6	1.05	0.02	NO
Leukemia	8	5.3	1.52	1.41	NO
Melanoma of the Skin	6	8.9	0.67	0.96	NO
Other, Unknown Ill-defined	6	N/A	N/A	N/A	N/A
Oral Cavity and Pharynx	6	5.7	1.05	0.01	NO
Kidney and Renal Pelvis	3	6.3	0.48	1.74	NO
All Cancer Sites	199	217.1	0.92	1.51	NO

Excludes in-situ cases of cancer, except bladder to allow for comparison.

Cancer Types with less than 5 cases of cancer expected are not analyzed due to the unreliability of statistical tests based on small numbers.

* The Chi-square statistical test allows us to determine if the difference between what is observed and what is expected is significant.

If the value is greater than 3.84, then we are 95% confident that the observed number of cases is significantly different from the expected number of cases.

Table 2. Analysis of Cancer Deaths in ZIP Code 29645, 2000-2004

Cause of Death	Observed No. of Deaths	Expected No. of Deaths	Observed/ Expected	Chi- Square Test*	Significance
Lung and Bronchus	25	26.4	0.95	0.08	NO
Other Unknown, Ill-defined	9	N/A	N/A	N/A	N/A
Colon and Rectum	6	8.1	0.74	0.57	NO
Female Breast	4	6.3	0.64	0.84	NO
All Malignant Cancers	68	86.1	0.79	3.79	NO

Cancer Types with less than 5 cancer deaths expected are not analyzed due to the unreliability of statistical tests based on small numbers.

*The Chi-square statistical test allows us to determine if the difference between what is observed and what is expected is significant.

If the value is greater than 3.84, then we are 95% confident that the observed number of deaths is significantly different from the expected number of deaths.